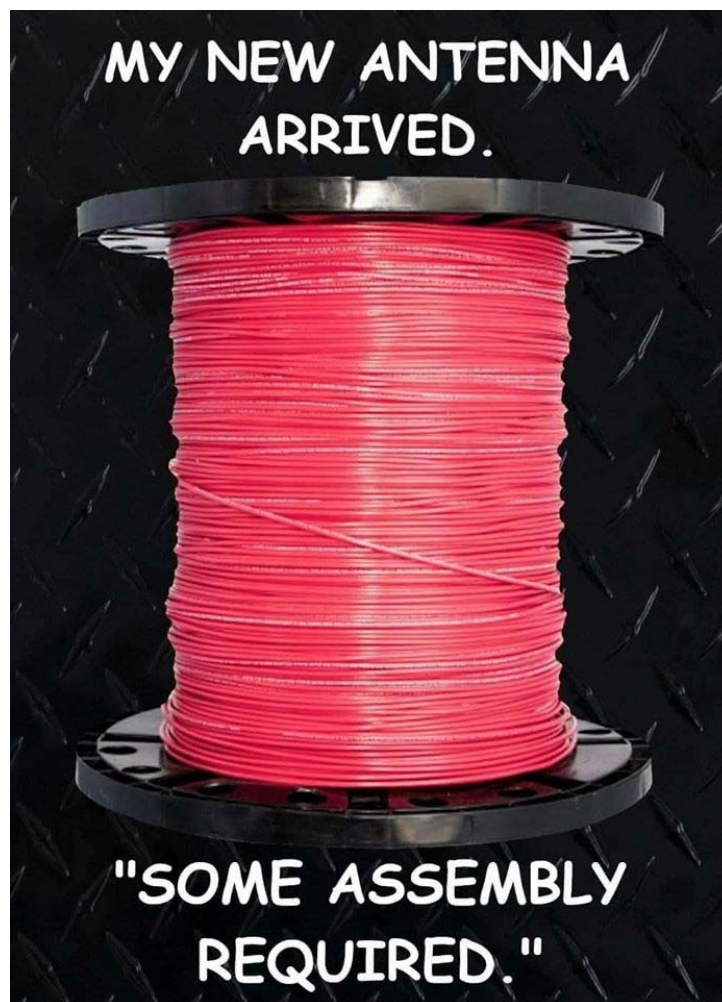




No September Club Meeting Due to COVID-19 rules on gatherings

Socialize on the airwaves instead



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LAST MINUTE VK3CH RADIO ROOM IMPROVEMENTS FOR 8th DATV QSO PARTY

Mick VK3CH has been busy getting ready with lots of new additions and features engineered into the station. All of this was documented in the July NEVARC News.

The last lot of improvements below were complete by end of July, just a few days before the Melbourne State of Emergency restrictions commenced; MSY and Jaycar exceed the 5km radius limit from this QTH.

The last four items to sort out was the shack lighting, a roving microphone, some more USB ports for the computer and another alternate cable run to the back yard to receive video. Actually the alternate cable run was always there, but failed as something chewed through the cable.

A wireless USB Microphone was purchased; USB input was chosen so the virtual mixer could control it. For the backyard it is used for narration and in the shack it can be used for voice overs when playing videos if necessary. It uses the new ACMA wireless microphone frequencies of 523MHz to 566MHz.

Now only one USB port left, the computer is 10 years old but still does the job, later a 7 port hub was bought.

The Ethernet cable is used to send video via two composite video to Ethernet converters. I thought one of the video converters had failed ages ago, but it was a crook eaten cable, after inspecting it, which required pulling it all out from under the house. The Ethernet cable was replaced.

Last job was getting better lighting without strong light into my eyes. This took a bit of experimentation but ended up using White LED strips. I have four switches so I can alter the intensity depending on day or night.

COVID-19 STOPS VK3CH GOING ATV PORTABLE

Most DATV QSO Parties years gone by, we go portable on the Saturday afternoon, but with COVID-19 State restrictions I was worried Police will say that my radio activity a non essential nature and ‘move me on’ or hand over a fine, then ‘State of Disaster’ was declared, so I decided to operate home for the whole event. Portable ATV operation is a goal for next year. That’s if we are all allowed out to roam free next year...???

COVID-19 has made a very different world for everyone.

A lot of money has been spent by companies large and small on upgrading of private networks to cater for staff working from home – out of necessity. These same companies are paying big rent in often whole-floor offices spaces in Melbourne, Sydney and other capital cities throughout Australia.

Domestically – hygiene practices have been reviewed and guidelines followed that have yielded a greatly reduced ‘winter-flu’ rate already as a result of hand-washing, distancing, and ‘elbow-sneezing’! We would hope that any uplift in these hygiene practices will stay on after Covid-19.

From a local economy perspective – we now see the value in supporting our local businesses – and we’ve seen this the hard way – shops closed either by law or from severe lack of cash-flow. The community will swing towards local purchasing in the coming months. This will be successful if local business also embraces the challenge of matching (within reason) overseas online prices. It is the perfect time to go on the attack against cheap imports, as there will be government support for some time longer, and there is a definite ‘buy Australian’ sentiment out there to support this.

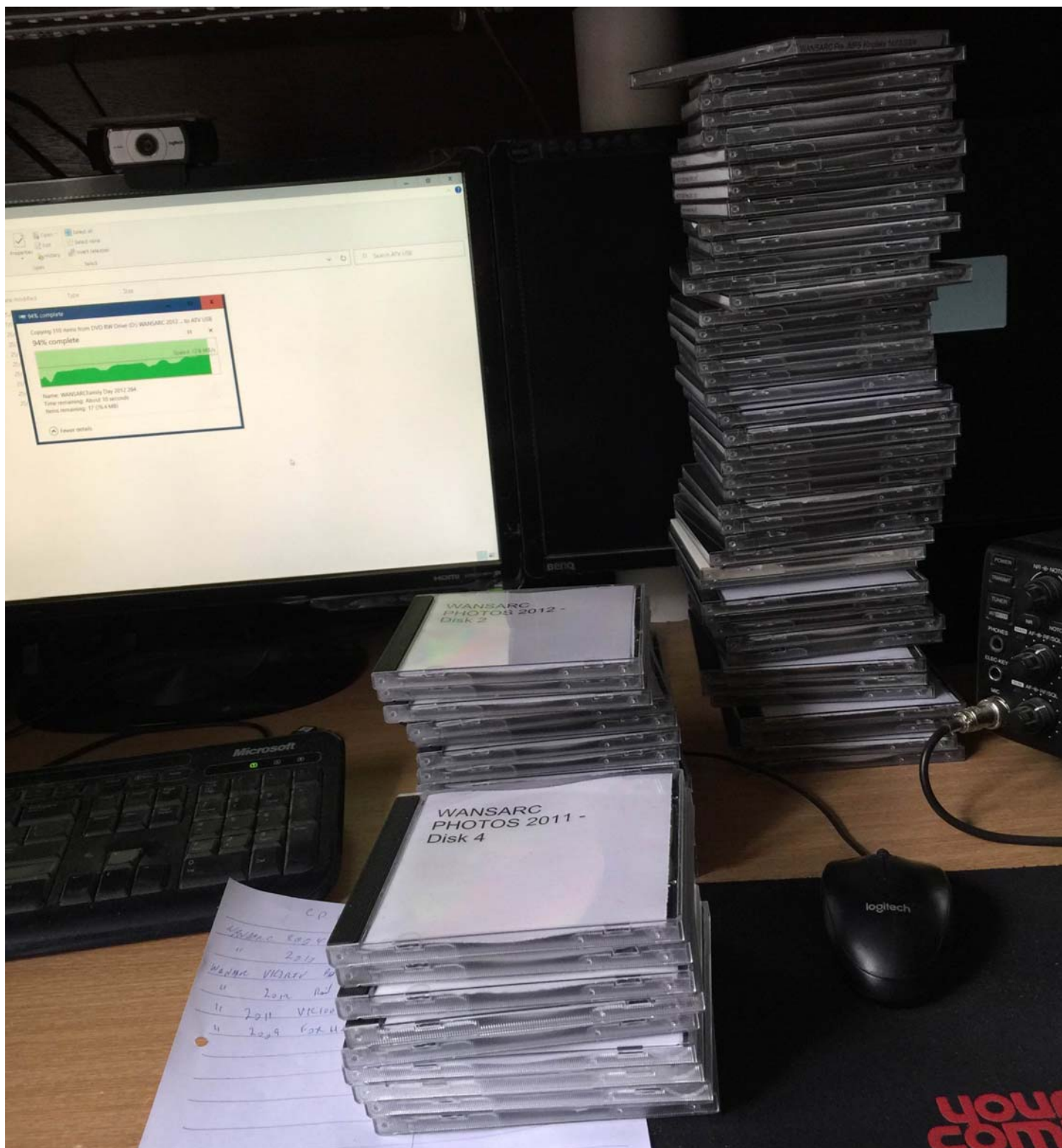
VK3RTV NETS

Late July Peter Cossins started up Tuesday night Amateur Radio Television Nets.

Net Control uses the ATV liaison frequency of 147.400 FM and VK3RML Ferny Creek repeater 146.700MHz. Its quite ad-hoc and anything can end up on air, but an opportunity for ideas to be showcased and discussions. VK3RTV is now DVB-S digital inputs only. Most television transmitting operators in Melbourne have made the transition to digital, with lots of options to choose from.

WHAT TO PUT UP TO ATV ONCE THE PARTY IS OVER

I was asking myself this question now that COVID-19 restrictions kill off any portable operation. One answer was on the shelf, a heap of CD and DVD recordings of radio stuff over nearly 20 years. It took a whole weekend to browse through nearly 20 years of photos and videos of ham radio meetings, experiments and BBQ days, there were a lot of those and many sessions of previous ATV QSO Parties. It was a bit sad to see so many faces that are now no longer with us.



In the collection are photos of the very first NEVARC meeting held at Brenton VK3CM house.

LEARNING TO USE GIMP

The videos I will transmit to VK3RTV need title text on them so those watching know what it is about.

This will save me having to be about to answer questions via the radio.

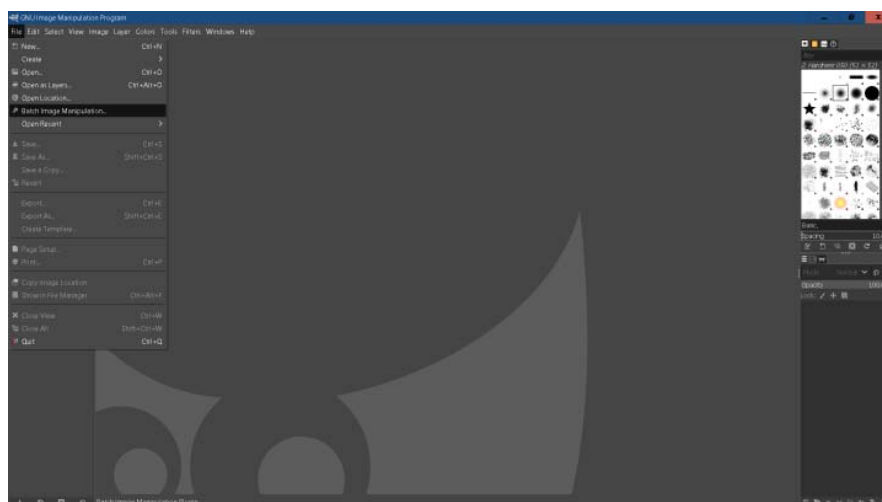
My video editing program can put title text on videos, it takes quite a while for it to go frame by frame to 'ink' the title text on, but gives the PC something to do.

For photos there was a heap of choices, but most wanted money so some shareware was in order.

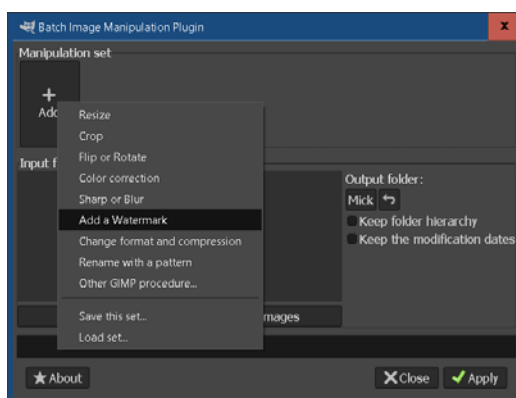
GIMP was recommended by Matt VK3VS, so it was installed.

As I wanted to put text on batches of photos a batch plug in was required, once installed we were good to go.

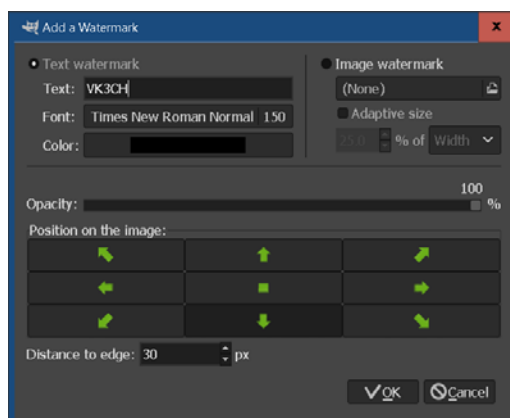
The next job was to learn how to use Batch Processing in GIMP.



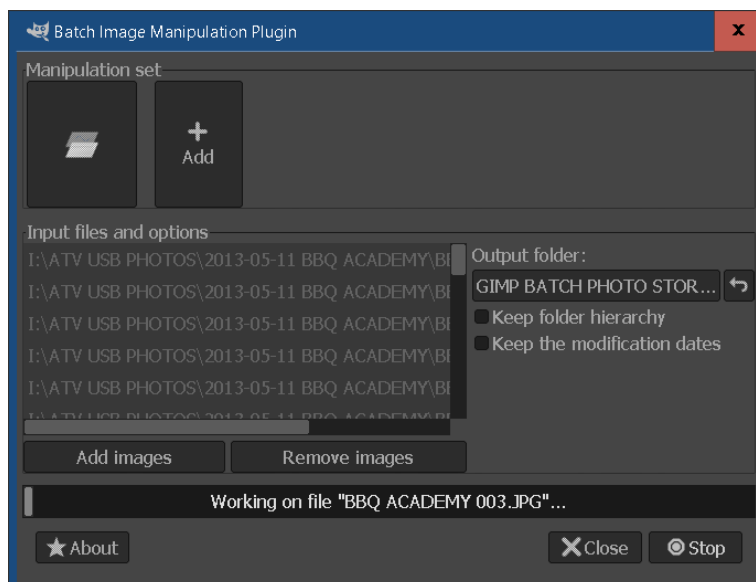
Batch Image Manipulation selected



Add a Watermark selected



I select text watermark, write the text, a Times New Roman font of 125 ~ 150 required, with a white colour #FFFFFF on bottom (↓) of picture, 30 pixels distance to photos edge, then save to appropriate output folder



Then add the files you want to process and select Apply, away it goes

MORE SWITCH DRAMA

The mains switch on the ATV transmitter was temperamental, took this as a warning that it will fail soon. This involved taking out every cable so the unit could be worked on, a new high quality switch mains replaced.



The transmitter on the bench with new mains switch



The rat's nest of AV cables to put back, each one is labelled



All the AV cables go here and switched then to OSD above, then to the ATV transmitter

HARD DISK SPACE DROUGHT

After converting and titling all the video files I found around the place, more hard disk space was required. Decided to be future thinking and lashed out and purchased a 10TB Hard Drive. Once formatted you end up with a useable 9TB.

Hard Disk Drives are sold using what I call marketing bytes.

You get roughly 93% of the stated capacity.

A megabyte is a million bytes. A gigabyte is a billion bites. A terabyte is a trillion bytes.

Computers use real bytes.

A megabyte is 1024×1024 bytes. A gigabyte is $1024 \times 1024 \times 1024$ bytes.

A terabyte is $1024 \times 1024 \times 1024 \times 1024$ bytes.

As the unit size gets bigger the difference becomes more noticeable.

9 real terabytes is 9,895,604,649,984 bytes... very close to 10 trillion bytes.

I had to remove a 1TB drive to use the slot and cables for the new 10TB drive, out of spare SATA slots as well. I copied all the data from all my old drives, then removed them from PC, by then the 10TB drive was half full!



Old Hard Drive Collection

Various sizes such as 2.1GB, 10.2GB, 30.6GB, 80GB, 120GB and 1TB

AUDIO MIXER

With so many actual and virtual audio signals to deal with an audio mixer is necessary. Virtual inputs are the sounds generated by computer applications such as video files, internet video streaming, Skype, USB microphones, webcams, computer CD drives, SDR cards... I use Voice Meter Banana. This gives the option for microphone voice over and handles multiple sources that can be custom tweaked.



The radio room with four monitors to view ATV video and sound mixing and output control
NEVARC NEWS Vol 07 Issue 09 2020

WEBCAM EXTRAS

Some of the new webcams have very good picture quality, certainly video resolution for ATV. But with so many persons working from home video conferencing, webcams are sold out or very expensive. I found one in the junk box, installed it at the rear deck as an option to use. Only 720 pixels, uses the powered USB hub at the rear deck for the wireless microphone, with three spare USB ports, may as well use them, saves another cable run under the house, bought another two 1080P webcams.

THIRD BACK YARD CAMERA SITE



A pair of video extenders posted for \$39 ↑

Running video feed over CAT5 Ethernet cable is a lot cheaper than good video cable plus Ethernet cable is smaller and can pull through small holes and tight spaces.

I bought a pair of video extenders for \$39 posted. These cost more than that just a few years ago. They allow a 300 meter run, but I will only be going 30 meters from the shack.

The last spare RCA feed on the AV control centre will take this rear yard feed from the East deck.

I hope this is the last cable feed I do, as its really cramped, dusty and dirty crawling underneath the house. The XYL reckons I am completely mad for all the trouble I am going to, for what she says is 'just for two days of television transmission'. But it will be used for a lot more ATV sessions in future. Next year, nothing further needs to be done, it's all complete. Well... until the XYL ever decides to move house...!

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SPECIFICATIONS:

Interface:

Video: 1 * RCA female connector
Audio: 2 * RCA female connectors
UTP: RJ-45 connector

Impedance:

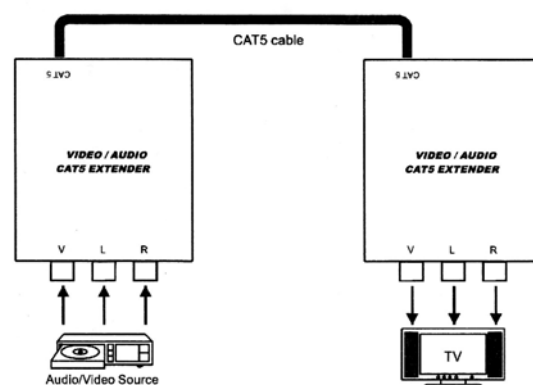
Video: 75 ohm unbalanced
Audio: 600 ohm unbalanced
UTP: 100 ohm balanced

Bandwidth:

Video: DC~12 MHz
Audio: 50 Hz~15 KHz

Distance:

Audio/Color Video: Category 5e UTP cable up to 300 meters



TV QRM

Another problem was random bad VK3RTV reception on the shack TV.

This TV is powered by 12 volts, fed from the shack 13.8v DC supply.

At times the reception of VK3RTV is really bad, but I discovered why.

When ever the set top box is on the problem happens. I tried ferrite filters on the set top box but no effect.

Winding the TV DC leads several turns through a ferrite core had the TV reception much improved.

I was out of ferrite cores so another EBay order for those.

The TV was fed off a DC bus strip with then twin cable that is also feeding LED light strips and other stuff.

Maybe this other stuff was the source of my TV QRM.

Perhaps the TV should have its own direct feed right from the power supply via a shielded cable that was passed through some ferrite cores right near the TV DC socket.

A scrounge through the junk boxes yielded a spare 12v plug pack supply.

The TV still was affected, so ferrite cores were placed on the 12 volt lead and the mains lead as well.

Now the TV performed better, so more ferrite cores were ordered, never used EBay so much in my life.

The ATV RX beam pointing towards Surrey Hills was realigned towards Mount View for a bit more gain.

Later I will add another RF preamp to that, but a job for next year. More ferrite cores on order, post so slow.

MORE SOFTWARE DRAMA

With multiple video inputs the HDMI output fro the video card gets switched from the monitor to the ATV TX.

But this gives problems as the computer thinks the monitor is now unplugged and the software reacts accordingly. The main hassle is Voice Meter Banana drops the audio drivers for the HDMI to composite converter, video gets through but the audio is lost.

The solution was a simple one – a HDMI to Composite converter and a Composite to HDMI converter, back to back. This was just \$19 posted on EBay, consumer electronics so cheap compared to years ago.

The idea was have a permanent link to the monitor, but tap the composite video off the path between them.

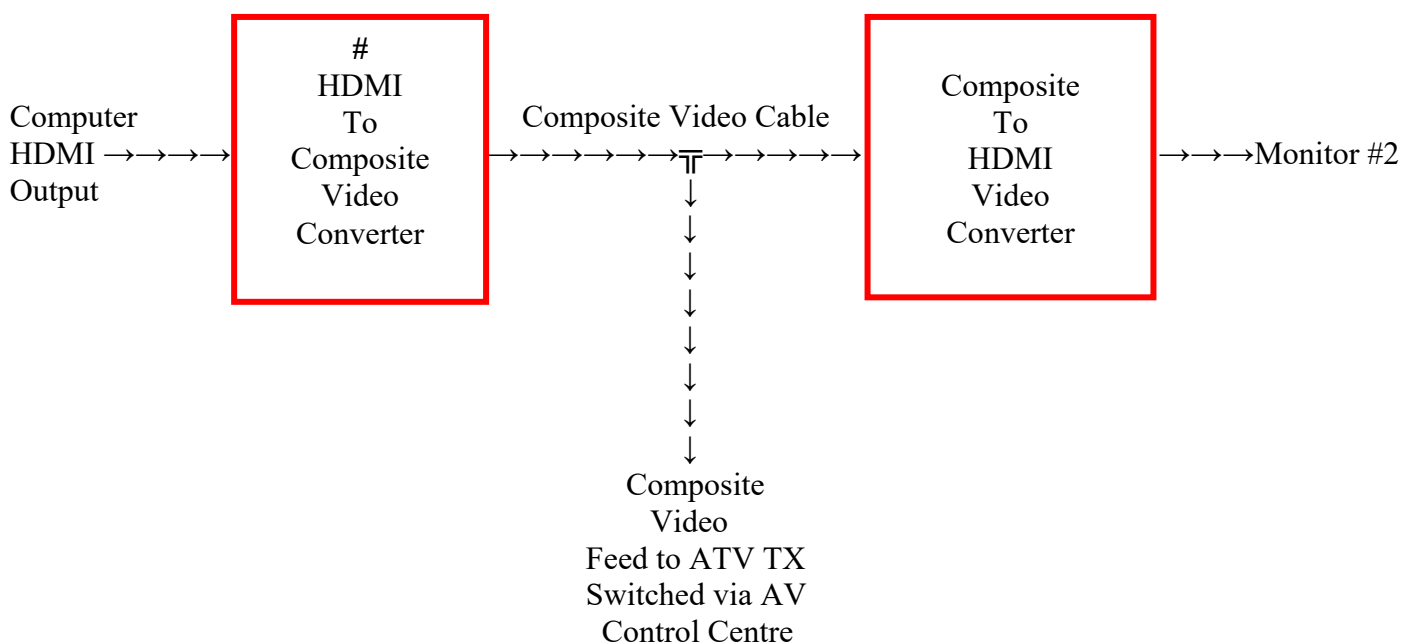
This way the computer sees a permanent monitor link, so the software behaves and settings don't change.

The left device (#) is the one to have its audio feed supported by Voice Meter Banana.

As this device (#) is always connected no software change occurs.

Why didn't I think of this in the beginning?

So glad I was ready a month before, so I had time to find out and rectify all these design issues.



ANOTHER MAJOR SWITCHING REDESIGN

The SR-Systems boards have a switch that toggles the transmission to standby or on.

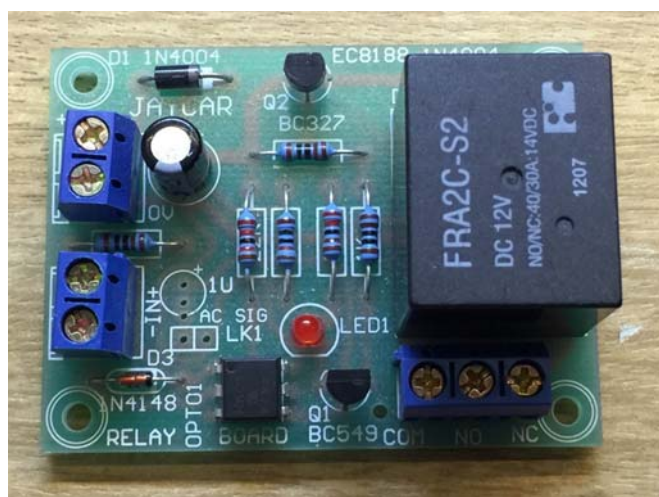
As I was too concerned about stray RF or other problems using a lead to toggle the unit from afar I used relay switching that cut off the DC power to the whole unit when I wanted it off air when I was outside.

But a better design was to take advantage of the SR-Systems TX toggle facility and use an opto-coupler to take the distant switching from outside, stopping any nasties on the cable getting in the SR-Systems boards.

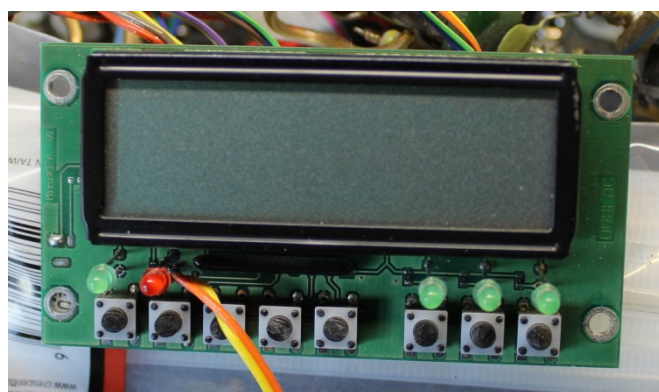
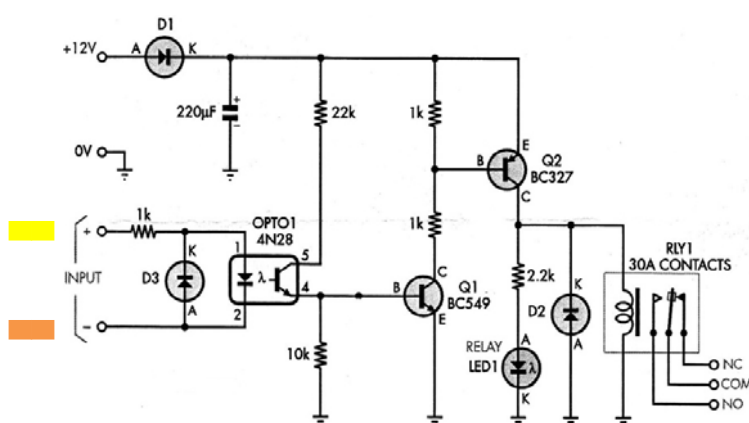
I decided I can use the existing relay to switch the TX toggle switch line.

I have a spare opto-coupler that will take feed from the TX active LED and switch a voltage out that I can use as an on air indication when I am transmitting from a distance from the shack when outside.

This will save relying on watching a TV to see if I am sending ATV carrier to VK3RTV or not.



← Jaycar Opto-Coupler kit, found in the junk box



The SR-Systems 'Front Panel' display with wires soldered to the on air indication LED.

This is used to feed the opto-coupler.

Given the expense of the SR-Systems ATV gear and that they don't make it anymore, only what stock is left available, it was a careful intense bit of soldering.

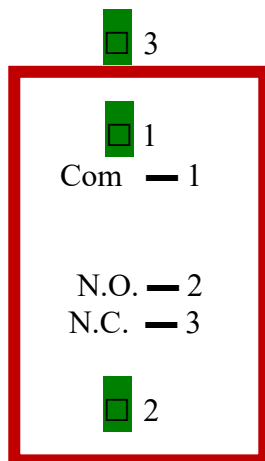
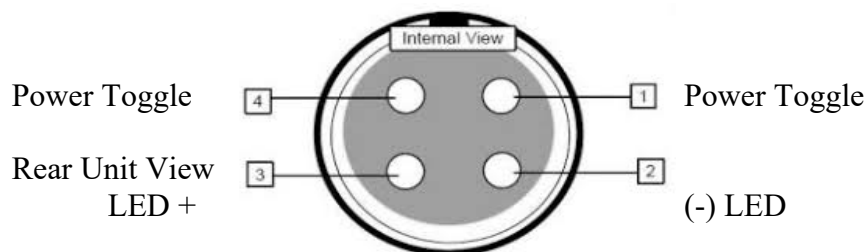
The LED has 1.9v DC across it, plenty for opto-coupler sensing. Orange Negative / Yellow Positive

While I had the ATV TX covers off (again) it was time to also put in RF ferrite cores on the mains and DC leads to help stop any unwanted RFI to my TV and other equipment.

Transmitting voice on 2 meters kills the TV, but as I am running 100 watts that's expected, but the ultimate goal would be to have the TV so well filtered that it copes, so the mains and DC leads from shack supply all had clip-on ferrites added.

So another pair of cables was run under the house, now the ATV transmitter can be controlled from either rear yard deck, with an LED indicator, outside on both decks, to indicate on air.

RELAY WIRING



Contacts 1 & 2 Normally Open to
SR-Systems TX Toggle

Relay Base

Rear of Unit

LAPEL MICROPHONE & AUDIO MIXER

Searching EBay a dual lapel microphone was ordered, will have three microphones to choose from, all on the proper ACMA approved UHF frequency. Now my hands can be free to grab the BBQ tongs!

A four channel audio mixer was also purchased, cheaper than trying to build one, this audio mixer deals with all non computer controlled audio sources.



LAST EXTRAS

Another composite dome HD 1080P colour video camera was purchased so my good camera can be freed up instead of being used just for the shack. It is quite widescreen so most of the shack is in view. A microphone preamp for the dynamic microphone was added into the On Screen Display unit as the dome camera is video only, no microphone.

For shack video I now have the choice of either webcam or composite video. Three webcams give different perspectives of the backyard and BBQ's.



The Ethernet extended USB Hub has strange fussy needs, the webcams must be plugged in a certain port otherwise one or more refuse to work, no idea why this should be, only discovered this by a lot of combinations, nothing found online to explain why.

We are as ready as can be now for the 8th Annual Worldwide ATV QSO Party.

~Mick VK3CH

8th Digital Amateur Radio Television Worldwide QSO Party Friday 28th & Saturday 29th August 2020

'Every Pixel tells a story'

It has been a while since the 7th DATV QSO Party as the VK3RTV repeater was decommissioned from Olinda and made the move firstly testing mode at Surrey Hills and now at its final location at Mount View. The previous 7th DATV QSO Party was held on 25th & 26th August 2017. Now with VK3RTV at Mount View and all testing and improvements complete, the 8th DATV QSO Party can happen three years later – at least COVID-19 won't shut this one down!

The 2020 DATV QSO Party started at on Friday 28th August at 7.30 PM, with stations from Melbourne, Sydney, Whyalla, Port Pirie, Tasmania (North Coast and Hobart) and perhaps Brisbane. Saturday morning 29th August started 10 AM in Columbus Ohio and then moved across the US to Nevada and then the West Coast. It was live streamed on the BATC as well as well as having multiple access options to VK3RTV for stations external to VK3RTV. Peter Cossins suggested that overs were limited to 4- 5 min max and prepared videos as short, with more short overs better than a few long ones.

LINKED AMATEUR RADIO TELEVISION REPEATERS

VK3RTV	MELBOURNE	VICTORIA
VK2RTS	SYDNEY	NEW SOUTH WALES
VK3RMD	PORT PIRIE	SOUTH AUSTRALIA
WR8ATV	COLUMBUS	OHIO USA
WO8TV	BOULDER	COLORADO USA
W6ATN NETWORK	CALIFORNIA	USA



Peter Cossins VK3BFG Opening Address of the 2020 DATV QSO Party

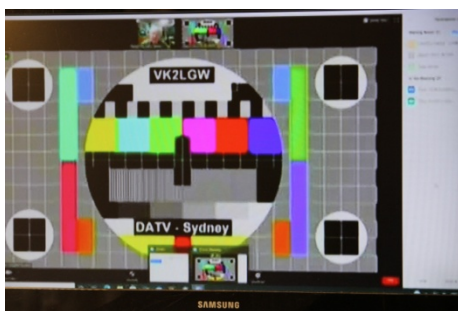
FRIDAY NIGHT – VK LOCAL LINK UP

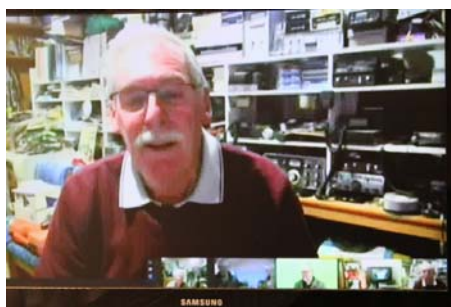
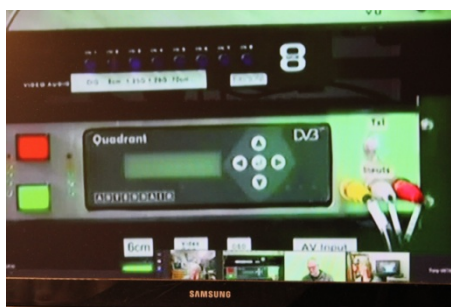
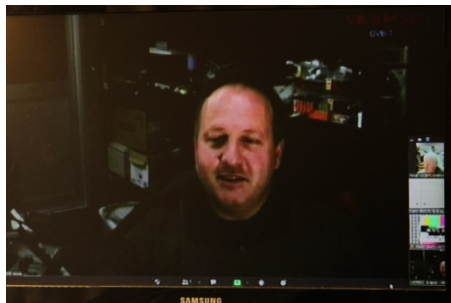
Well what a marathon, both days went way longer with so much information prepared by everyone. There were audio hassles, but most of these seem to be on the Skype, YouTube or Zoom side, probably as many folks don't use these as often, but in future years these teething problems will get sorted.

Because of a major storm and strong winds the day before quite a few Melbourne stations were not able to come up as they had no mains power due to storm damage.

Stations from Melbourne, New South Wales and South Australia all joined, linked up via Zoom or Skype. The range of topics and equipment and projects on display was staggering, diverse and well presented. There were a few audio hiccups, but as someone said, if it was all perfect, it would be boring...

One difference from VK compared to the States, is we use more on screen display identification, such as names, call signs and location data, you readily know who is live on air at any given time.



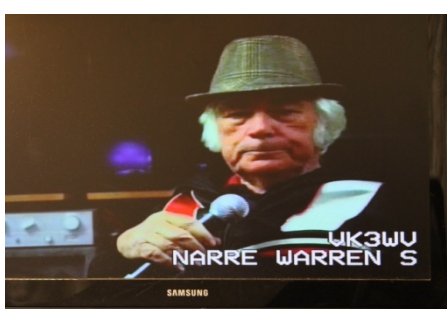


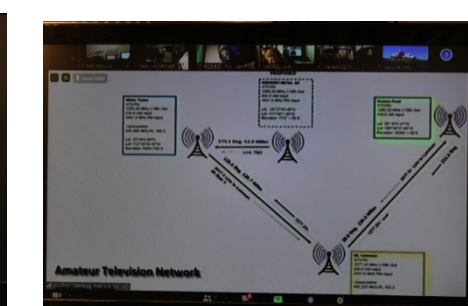
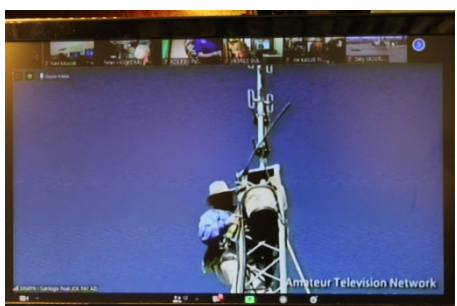
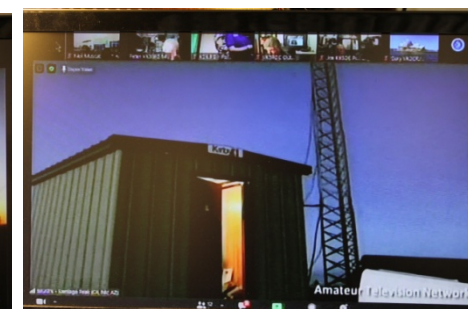
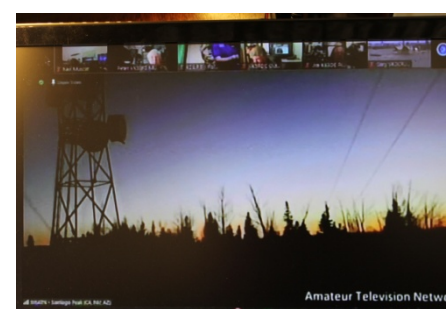
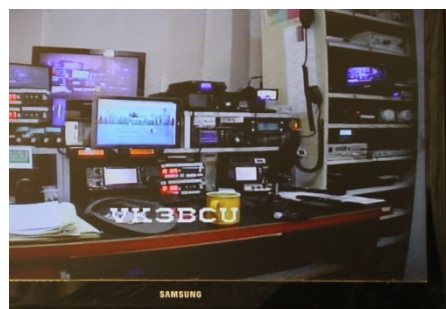
SATURDAY – INTERNATIONAL LINK UP

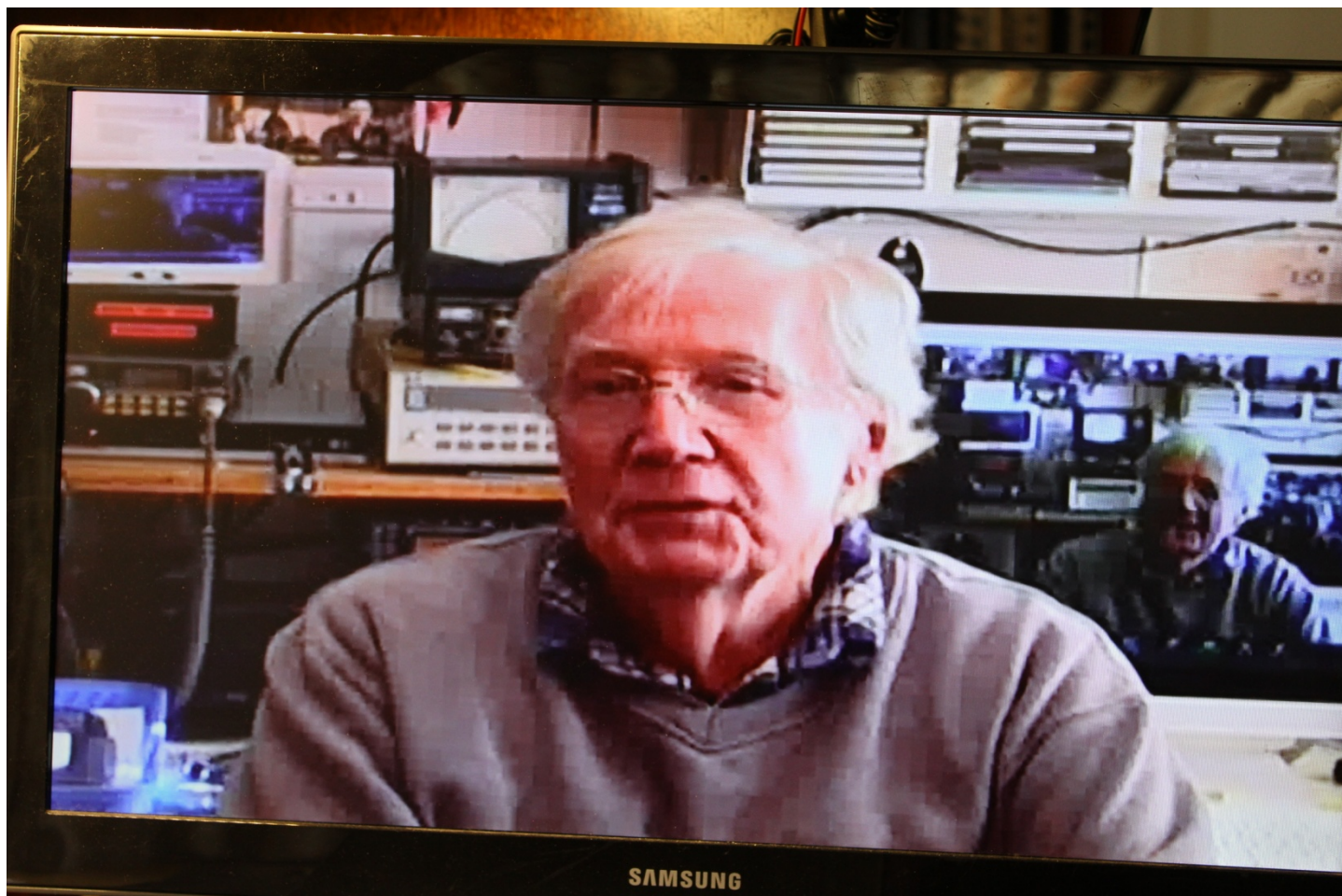
Like the night before the session was way longer due to all the content from all the stations. VK3RTV fired up at 10.00am and the DATV QSO Party session went for over 5 hours. Once again audio problems were the main culprit, but this was all on the internet linking side, not ham radio.

Not all USA stations are easy to know as they only speak the call sign not use text identification. Plus the accent and the speed call signs are said makes it hard to write it down so quickly. Using phonetics would help. Again the display of what projects people were working on was varied from simple things to major goals. I think we all got the celebrity thumbs up from the guys in the States! All the pre-prepared videos the VK crew put up was high quality, glad I filmed mine prior to the event.

The first stations to come on were Australia followed by the USA. The power in parts of Melbourne was still out with lots of DATV stations that should have been on were not this year. It was daytime here and mid to late evening, into the night in America. The weather here was perfect, should be have been DATV portable in a park, with a BBQ, instead of a house lockdown.







Peter Cossins giving the closing address, it's been a long two days

THE ROLL CALL

While we try to be accurate, this list might have errors, but whom we think came on air was...

FRIDAY NIGHT

In order of appearance was,

VK2CRJ – Gary, VK2LGW – Luke, VK7OTC – Justin, VK7AX – Tony, VK3BCU – Neil, VK3CH – Mick, VK3ATV – John, VK3WV – Dennis, VK3CSJ – Clint, VK3WWW – Jack, VK5BD – Bevan, VK5KJG – John, VK5YYY – Roger, VK5MSD – Steven, VK5DMC – David, VK5ALX – Alex

SATURDAY

Roughly in order of appearance was,

VK3CH – Mick, VK3WWW – Jack, VK3ATV – John, VK3WV – Dennis, VK3CSJ – Clint, VK3BCU – Neil, VK3BFG – Peter.

From the States, 5 Call Signs were seen on the BATC Chat window, we had up to 25 viewers on VK3RTV 2 and peaking around 20 on VK3RTV 1, but RTV2 held the most views.

KH6HTV – Jim, K6SOE – Jim, WA6NUT – Rick, KA7HQP – Dennis, K0PYX – Larry, N8ZM – Thomas, W8ACT – Charlie, W8RMC – James, N0JOY – Lee, AB0MY – Bill, K0JOI – Glenn, WB0VES – Peter, WB6HYH – Tom, KC6JPG – Roland, K0BCCU – Lee, W6KVC – Gary, WB9KMO – Rod

From VK5, VK5BD – Bevan, VK5YYY – Roger, VK5ALX – Alex, VK5MSD – Steven, VK5DMC – David
From VK2, VK2CRJ – Gary, VK2ATU – John.

After two and a half years VK3RTV, the Melbourne DATV Repeater is back on the air again. The site for the system is Amateur Radio Victoria's Mount View in the Melbourne metropolitan area. The site is a high point in the eastern suburbs. Initial reports are very favourable with most current ATV operators able to access the system. The Repeater is now purely digital with three inputs of 1246, 1255 and 1278 MHz DVB-S. The output is a multiplexed signal on 445.5 MHz DVB-T with QPSK modulation. The transmitter is a 500 watt amplifier running an output of 100 watts. The receive antennas are dual quads sealed in waterproof radomes. The polarisation of these antennas is horizontal. The output antenna is a vertically polarised omni-directional array.

Peter acknowledged the help of many hams and radio clubs with donations of time and money. Donations of cash came from Amateur Radio Victoria, EMDRC and WANSARC.

VK3CH SUMMARY OF THE EVENT

It was a busy two days, all my work paid off and having pre-recorded video is the best idea. Everything in my station operated as per design; all I want now is auto muting of the TV when I go to transmit. This is a project for next month, my biggest hassle are the postal delays getting components. It's been a crazy few months getting everything operating as I want it to.

At least it stops COVID-19 lockdown boredom...
In fact I worry what I will do once all is done and finished.

But when ever I tell the XYL a stage is complete, she does not believe me; I never stop tinkering with it.



The setup in the rear yard, all functioned flawlessly
Looking forward to next year's party.

~Mick VK3CH

ENTHUSIASM FOR DUTCH AMATEURS' DATV EXPERIMENT

Nothing succeeds in ham radio like the spirit of experimentation, as a group of radio operators in the Netherlands recently found out.

Hams have responded enthusiastically to an invitation by the Dutch amateur radio society VERON, opening the door to the use of 2 metres for digital amateur TV, or DATV. The organisation mounted the challenge in early July, hoping that hams would prove that 144 MHz was indeed well-suited for such use. The four-hour trial run on 144.600 and 145.300 MHz attracted a group of 27 participants and a video was made available to instruct them in the use of the software used to decode the images. VERON is reviewing the data sent by all hams and said that it's clear the participants are ready to do this again.

~Amateur Radio Newline Report 2235

NEVARC Nets



40M Net

Monday, Wednesday and Fridays
10am Local time (East coast)

7.095 MHz LSB

Approximately + or – QRM

7.097 MHz has been used for a while now

Hosted by Ron VK3AHR

“Australia Ham Radio 40 Meter Net”

80M Net

Wednesday 20:30 Local time

3.622 MHz LSB

Hosted by Ron VK3AHR

Using the club call VK3ANE

2M Nets

Monday at 2000 local time on
VK3RWO repeater

146.975 MHz

President, VK2VU, Gary
Vice President, Tom VK3NXT
Secretary, VK2FKLR, Kathleen
Treasurer, Amy



NEVARC CLUB PROFILE

History

The North East Victoria Amateur Radio Club (NEVARC) formed in 2014.

As of the 7th August 2014, Incorporated, Registered Incorporation number A0061589C.

NEVARC is an affiliated club of the Wireless Institute of Australia and The Radio Amateur Society of Australia Inc.

Meetings

Meetings details are on the club website, the Second Sunday of every month, check for latest scheduled details.

Meetings held at the Belvoir Guides Hall, 6 Silva Drive West Wodonga.

Meetings commence with a BBQ (with a donation tin for meat) at 12pm with meeting afterwards.

Members are encouraged to turn up a little earlier for clubroom maintenance.

Call in Via VK3RWO, 146.975, 123 Hz tone.

VK3ANE NETS

HF

7.095 MHz Monday, Wednesday, Friday - 10am Local time

currently using 7097 MHz

3.622 MHz Wednesday - 8.30pm Local time

VHF

VK3RWO Repeater 146.975 MHz—Monday - 8pm Local time

All nets are hosted by Ron Hanel VK3AHR using the club callsign VK3ANE

Benefits

To provide the opportunity for Amateur Radio Operators and Short Wave Listeners to enhance their hobby through interaction with other Amateur Radio Operators and Short Wave Listeners. Free technology and related presentations, sponsored construction activities, discounted (and sometimes free) equipment, network of likeminded radio and electronics enthusiasts. Excellent club facilities and environment, ample car parking.

Website: www.nevarc.org.au

Postal:

NEVARC Secretary

PO Box 69

Facebook: www.facebook.com/nevicARC/

Wahgunyah Vic 3683

All editors' comments and other opinions in submitted articles may not always represent the opinions of the committee or the members of NEVARC, but published in spirit, to promote interest and active discussion on club activities and the promotion of Amateur Radio.

Contributions to NEVARC News are always welcome from members.

Email attachments of Word™, Plain Text, Excel™, PDF™ and JPG are all acceptable.

You can post material to the Post Office Box address at the top of this page, or email magazine@nevarc.org.au

Please include a stamped self-addressed envelope if you require your submission notes returned.

Email attachments not to exceed 5 Mb in file size. If you have more than 5 Mb, then send it split, in several emails to us.

Attachments of (or thought to be) executable code or virulently affected emails will not be opened.

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While we strive to be accurate, no responsibility taken for errors, omissions, or other perceived deficiencies, in respect of information contained in technical or other articles.

Any dates, times and locations given for upcoming events please check with a reliable source closer to the event.

This is particularly true for pre-planned outdoor activities affected by adverse weather etc.

The club website <http://nevarc.org.au> has current information on planned events and scheduled meeting dates.

You can get the WIA News sent to your inbox each week by simply clicking a link and entering your email address found at www.wia.org.au. The links for either text email or MP3 voice files are there as well as Podcasts and Twitter. This WIA service is FREE.